OS12A10

12-Megapixel Product Brief

12MP CMOS Image Sensor with PureCel®Plus and Nyxel® Technologies for 4K Doorbell Security Cameras

The OS12A10 RAW RGB image sensor is a high performance, 1/1.566-inch, 12-megapixel, CMOS image sensor that delivers 4096 x 3024 at 40 frames per second (fps) 10-bit. It provides full-frame, sub-sampled, and windowed 10-bit/12-bit MIPI images in various formats via the control of the serial camera control bus (SCCB) interface.

The OS12A10 has an image array capable of operating at up to 40 fps in 10-bit 12-megapixel resolution with complete user control over image quality, formatting and output data transfer. Some image processing functions, such as defective pixel canceling, are programmable through the SCCB interface.

In addition, OMNIVISION image sensors use proprietary sensor technology to improve image quality by reducing or eliminating common lighting/electrical sources of image contamination, such as fixed pattern noise, smearing, etc., to produce a clean, fully stable, color image. The OS12A10 supports a DCG on-chip combined, high dynamic RAW output creating no motion artifacts.

The OS12A10 supports an ultra low power always-on (AO)/pre roll, SPI/AO-link interface using ~2 mW 5 fps @ 960 x 540.

The OS12A10 has a MIPI interface of up to four lanes.

Applications

- Security systems
- Action cameras
- High resolution consumer cameras

Features

- **Active array size:** 4096 x 3024
- **Maximum image transfer rate:**
  - 4096 x 3024: 40 fps 10-bit
  - 3840 x 2160: 60 fps 10-bit
  - 2880 x 2880: 60 fps 10-bit
- **Power supply:**
  - Analog: 2.8V
  - I/O: 1.8V
  - Core: 1.2V
- **Output interfaces:** 4-lane MIPI/LVDS (supports maximum speed up to 1560 Mbps / lane *4), MIPI HDR
- **Output formats:** 10/12-bit RGB RAW (8-bit in AO mode)
- **Lens size:** 1/1.566"
- **Pixel size:** 1.998 µm x 1.998 µm

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